

## Impact of Trust on Internet Banking Adoption: A Literature Review

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**Abstract:** Banks spend a great amount of money on providing the Internet banking service to customers. Hence, the lack of adoption of Internet banking can bring negative consequences for the banks. As a result, banks continuously try to adapt their business strategies to increase customer satisfaction. This paper provides an overview of the extant research into the relationships between trust and Internet banking adoption from the customers' perspective. The literature review covers empirical studies on trust and online trust, the factors of trust and the adoption of Internet banking. To facilitate the review and analysis of the studies reported in the literature, we propose a framework of customer factors and website factors which affect trust and organize the impact of trust on Internet banking adoption under the proposed framework. The findings indicate that trust has a positive effect on the adoption of Internet banking. Moreover, the results show that there are many factors related to trust in electronic services. The majority of the research has been conducted in the context of Internet banking. Drawing on these studies, the review presented in this paper offers an overview of the relevant variables that may affect people's trust in Internet banking.

**Key words:** Trust, Internet banking, Website, Internet banking adoption, Customer

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### INTRODUCTION

Nowadays, Internet technology is an important tool because it allows people to interact with each other easily. The purchase of different items and services is also made possible by this technology. Nevertheless, online transactions are often accompanied by feelings of fear and anxiety among customers. The faceless and intangible nature of the transactions can affect the willingness of customers to engage in any form of online activity. The acceptance of online transaction systems depends on the user's trust.

As the central concept of this paper, the understanding of trust will be explored through the definitions and concepts introduced by previous researchers in areas of study which relate to customer satisfaction, since customers are the basic and valuable sources of an organisation's revenue. Customers' trust is selected as the main factor affecting the acceptance of online transactions. This concept was selected due to the fact that trust can improve the quality of relationship, and building relationships with customers plays a vital role in increasing the level of future revenue in any organisation (Wang *et al.*, 2003). This approach is supported by the authors in (Chen and Barnes, 2007) who indicated that the basic goal of customer relationship management (CRM) is to guarantee a constant source of revenue and the highest level of customer lifetime value. In this regard, understanding customers' behaviour is logically significant.

Electronic banking is a substantial construct which includes several submission channels. It should be noted that electronic banking is more than just undertaking financial transactions by using the Web. However, we can see that the most common kind of electronic banking is banking through the Internet, called Internet banking. Many research studies have shown the substantial relationship between trust and the adoption of Internet banking or any e-commerce services. For example, empirical studies have found that trust plays an important role in making decisions for online purchasing (Flavián *et al.*, 2006), designing websites with a high level of loyalty (Rexha *et al.*, 2003), doing online banking activities (Chen and Barnes, 2007), adapting to electronic banking (Chen and Corkindale, 2008) and forming the intention to adopt an online information service (Jayawardhena and Foley, 2000).

It has also been discovered that online trust is a crucial issue for customer retention in terms of Internet banking services. There is evidence that trust is a dominant factor in behavioural intention in electronic services, when CRM performance indicates whether the customer has the tendency to reuse Internet banking services. A previous study by (Flavián *et al.*, 2006) showed that initial trust is a significant factor because it has important effects on purchase intention in online shopping.

According to their study, the authors in (Flavián *et al.*, 2006) found that two important factors, namely, online initial trust and familiarity, have an important positive impact on the tendency to purchase in online shopping. The results of their empirical research proved the positive effect of perceived initial online trust on purchase intention among customers of online bookshops. Nonetheless, the level of familiarity with online purchases dramatically increases the effect of online trust in the direction of the purchase intention. That study was set in Taiwan.

Through Internet banking, customers can access their bank account and financial information to perform banking transactions. Moreover, Internet banking is called online banking for all financial transactions, because it includes the

source of features such as obtaining information, transferring money, and purchasing goods and expert services in an online environment. These days, the Internet is used as a main channel for financial activities.

Internet banking is beneficial and advantageous for banks and their clients. The primary advantages to banks include cost savings, time savings, achieving new segments of the society, effectiveness, improvement of the bank’s status and better customer service and client satisfaction (Alsajjan and Dennis, 2010). Clients of online banking become motivated through trust, which plays an important role in improving the level of the availability of Internet banking in the online environment. In contrast with offline banking, the concept of trust is a vital consideration in online banking because the customers involved in the financial activities are concerned about sharing the essential files and important information through the Internet (Suh and Han, 2003a),(Tan and Sutherland, 2004).

This paper focuses on identifying the attributes of the concept of trust. The results of this research would be helpful for top managers in banks who can place emphasis on a system with a high level of understanding of their customers’ trust. Chellappa (Chen and Barnes, 2007) indicates that improving the understanding of trust is necessary to maintain the take-up of electronic activities. The goal of this study is to recognise the properties of trust, in relation to the level of adoption of Internet banking among customers.

The remainder of this paper is organised as follows. First of all, Section 2 explains the definition of trust and online trust. Section 3 outlines the different factors of trust. The factors of trust are identified by reviewing ten related papers. In Section 4, trust in Internet banking adoption is explained according to a number of different studies. Studies about Internet banking adoption from different perspectives are reviewed. Summaries are prepared to show the objectives, the most important factors of trust, results from studies and other details. Finally, some overall remarks in Section 5 conclude the paper.

**Research Method:**

We conducted an extensive literature review to investigate the impact of trust on Internet banking adoption. The first phase of the review was to determine the relevant source material. Since the topic of Internet banking is similar in scope to the topic of electronic business, relevant articles can be found in a wide variety of journals. We included academic journal papers from various disciplines and conference proceedings in our search. We expected that the best conference papers will evolve to journal articles and thus served as leading indicators for the focus of future journal publications.

We started the literature search with a wide systematic search of online academic journals and conference databases. The following databases were searched:

- ScienceDirect
- IEEE Xplore
- ACM Digital Library
- AIS eLibrary
- Google Scholar.

The search was based on the appearance of the terms “trust”, “Internet banking” and “adoption” in the title or abstract of the paper. To ensure the quality of the conference papers we focused our search on a few established conferences in the fields of information systems and electronic commerce. The search results were narrowed to those papers and journal proceedings published between 2000 and 2011.

**Trust:**

Trust has various explanations, showing the complicated characteristics of the concept of trust. A summary of these explanations is presented in Table 1. The definition of trust depends on the truster making himself/herself secure, which means that significant elements can be dropped as an effect of participating in the trusting connection. This definition is relevant to the online banking environment where customers perform their actions through the Internet; the users who are prepared to be reliant on the Internet expect the Internet will fulfill their needs.

**Table 1:** Definitions of trust

Reference	Definition of Trust
(Alsajjan and Dennis, 2010)	Trust is an assessment made by the online consumer in regard to the trustworthiness of the electronic vendor.
(McKnight and Chervany, 2002), (Wang <i>et al.</i> , 2006)	Trust is an extremely complicated construct and has many dimensions.
(Kim <i>et al.</i> , 2009)	Trust is “the trait of trusting; of believing in the honesty and reliability of others”.
(Hernández-Ortega, 2011)	Trust is a key antecedent of customer loyalty.
(Gefen and Straub, 2003)	Trust can enhance the application of technology in the first steps of execution.

According to (Alsajjan and Dennis, 2010), trust can play an important role in boosting the level of adoption of Internet banking among online customers. Trust can take various forms in various relationships. The three recognized types of trust are calculus-based trust, relational trust, and institutional trust (McKnight and Chervany, 2002). Calculus-based trust is related to logical choice, and is an attribute of communication in financial trading.

The level of this trust can be determined by calculating the weight of profits and there is an intended relationship between them. Relational trust comes from gradual continuous relationships between the truster and the trusted. Relational trust is based on the knowledge that arises as a result of the truster's confidence in the trustee. Institutional trust originates from the institutional factors that operate as the broad supports of trust that can preserve further risk-taking and trusting behaviour. Institution-based trust can help to develop both calculus-based trust and relational trust.

The findings of comprehensive research on trust in organisations reveal that trust changes over time. According to (McKnight and Chervany, 2002), trust develops in three stages: (a) construction (where trust is built or rebuilt), (b) constancy (where trust exists), and (c) dissolution (where trust declines).

During the process of developing trust, estimating trust and institutional trust are related, whilst relational trust occurs in the next step in the development of trust (McKnight and Chervany, 2002). Due to the fact that the reviewed research focuses on the first steps in the development of trust, namely, the adoption of Internet banking, measurement trust and institutional trust are relevant factors in this research context. On the other hand, the expression of trust in the Internet banking service is a type of intentional trust. As a result, trust will become vulnerable to the effects of participation in the trusting behaviour with the bank that offers the online banking service. The author in (Gefen and Straub, 2003) suggested that there are different views of trust and it is necessary to unify the varying opinions of trust. The several views of trust can be integrated in two aspects, namely, the individual view and institutional view of trust. It was also stated in (Gefen and Straub, 2003) that communicating between customers and suppliers in an extremely uncertain environment can have a negative impact on customers' tendencies to conduct business (Gefen and Straub, 2003).

### **Online Trust:**

While Internet banking is considered to be a special type of e-service, the primary adoption of Internet banking relies on the roles of both the Internet technology and e-vendor in offering the service. This section discusses the different determinants of online trust, as identified in different empirical studies.

Suppliers are unavoidably separate and are not completely predictable, so customers naturally need to realize Online activities. Customers cannot conduct business with providers in an environment with a high level of uncertainty. Trust is one of the most important factors that can reduce the uncertainty (Grazioli and Jarvenpaa, 2000). Distrust and risk are natural factors and they are sometimes invisible in guarantees and agreements (Grabner-Kräuter and Faullant, 2008). In the online environment, users in all parts of the world are allowed to access vital information on computer systems and information transferred online. The online financial transaction is, therefore, naturally dangerous from the perspective of security.

Various studies have identified different factors of trust that could influence Internet users' trust in online transactions. According to (Koufaris and Hampton-Sosa, 2004), the tendency of customers to make a risky decision in online activities (for example disclosing credit card information) depends on their assessment of the sellers' security and their examination of the trust of the electronic commerce system.

In regard to online financial transactions, some customers show a higher disposition to trusting everything and everyone. These groups of customers have a tendency to trust a Web vendor despite having only limited information about it, whereas other groups of customers need more information to create trust (Teo and Liu, 2007).

Studies such as (McKnight and Chervany, 2002), (Corbitt *et al.*, 2003) revealed that the tendency to trust has an apposite effect on online trust formation. It is pointed out in these studies that trust changes across cultures because the propensity to trust is built over long periods of time and is affected by social influences and public impact over a lengthy period (McKnight and Chervany, 2002).

It is found that customers' levels of Internet experience and their degree of trust in an electronic commerce environment are positively related together. Researchers have found that customers' level of Internet experience has an effect on their tendency to trust the technology, which may in turn lead to the enhancement of their trust in electronic commerce (Bart *et al.*, 2005).

The effect of perceived ease of use on the formation of trust in electronic commerce has been proven in several research studies such as (Teo and Liu, 2007), (Chen, 2006), (Liao *et al.*, 2006). A detailed study of various kinds of websites regarding the features of trust shows that electronic vendors can acquire the trust of their customers when their websites are easy to use and when they can direct their customers easily (Chen, 2006).

The customers' trust may depend on the quality of the e-vendor. The quality of the vendor is related to the information features that the vendor offers via websites, such as usefulness, completeness and accuracy of the information. In other words, the quality of the vendors can boost customers' trust in online transactions. The research has proved that since customers can not touch the offered items in online shopping, they should be able to access clear and complete information for choosing and deciding about their purchase.

It has been explained that the graphical features and changing components of websites have a positive effect on trust; for example, clip-art and colours for an online banking website. The study indicates that an interface with a clip-art can increase feelings of trust in the group of customers, while a screen without three-dimensional, dynamic clip-art can reduce the users' feelings of trust in using the banking system (Costante *et al.*, 2011).

Customisation means that vendors in the online environment are able to modify products, services and transactional environments for improving their customers' satisfaction (Kim and Moon, 1998). The literature tends to use the concepts of customisation and personalisation to denote the same thing. The discussion of the different approaches to trust in online transactions in this paper is based on the review of the results of the different empirical research studies on trust in electronic exchanges, generally in the context of e-commerce.

#### **Factors Impacting on Trust:**

There are many factors identified in the literature which can affect customers' trust in online banking vendors. Identifying the factors of trust can be helpful for preparing the trust models for the future. Table 2 presents a summary of the results of past research. All of the factors that can affect trust are divided in two groups. One group is related to the characteristics of the website and the other group is related to the characteristics of the customers (Bhattacharjee, 2002). One study that focused on e-banking found that the customers' disposition to use Internet banking was shaped by trust (Liu *et al.*, 2011). In addition, trust can be affected by personal knowledge or information about Internet banking. Trust can be the basis of other important factors such as behavioural intention and has been realised as a significant characteristic for unskilled customers (Atoyan *et al.*, 2006).

It has been demonstrated that usability is a relevant dimension of trust and that, if usability is improved, it also improves trust in the system (Madsen and Gregor, 2000). Madsen and Gregor (Corritore *et al.*, 2003) divided trust dimensions into two categories: cognition-based (such as technical competencies, reliability and understandability), and affect-based (such as a personal affinity to the system). Trust and perceived risk are the main basis of intent, and trust is a multi-faceted aspect concept with three features: perceived trustworthiness, perceived security, and perceived privacy (Hsu, 2008).

According to Hoffman, security, together with privacy and usability, are amongst the most decisive factors of trust (Hoffman *et al.*, 2006); the other scholar also suggested the importance of developing metrics that are able to measure the trust level of a system (Kini and Choobineh, 2000). According to Camp (Mayer *et al.*, 1995) e-commerce systems, to be trusted, need to be "designed for trust", that is taking into account factors such as privacy, security and reliability from the very beginning. Mayer *et al.* (Rexha *et al.*, 2003) introduced trust as a multi-dimensional concept, with context and risk representing important dimensions.

The key factor for encouraging users is emphasising the perceived usefulness of Internet banking. It has also been suggested that models of technology acceptance should place emphasis on the effective role of the perceived usefulness of the technology (Kim and Prabhakar, 2004).

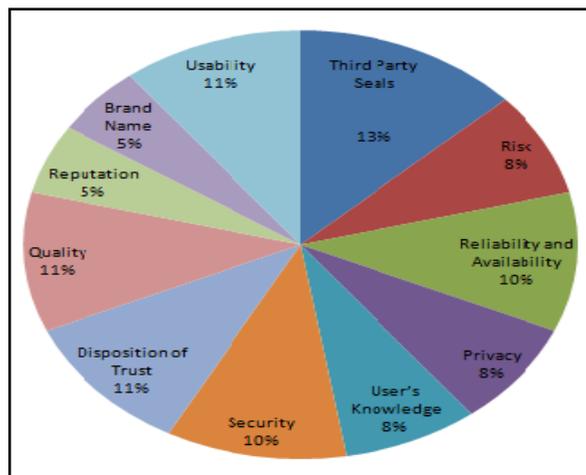
Some of the factors listed in the summary in Table 2 refer to features of the website such as privacy and security, while others refer to features of the user such as the user's knowledge and disposition to trust. The summary shows the main results of our literature review: each row presents a model of trust perception and each column presents a factor of trust; a cross indicates that the factor has been considered by the model. The last row of the table indicates the percentage of each factor.

As we can see in Table 2, each factor reflects a particular perception of trust. The factors are displayed graphically in Figure 1 and can be briefly explained as follows:

1. Risk is the probability that damage or loss can happen due to the use of a website
2. Reputation is characterised by others' experiences with the website
3. Privacy considers the protection of the user's personal data
4. Security has to do with protection mechanisms such as login or encryption procedures used by the website
5. Usability assesses how easy it is for the end-user to accomplish his or her goals using the website
6. Reliability and availability represent the probability that the website will perform and maintain its functionalities
7. Third party seals refer to the presence of trusted third party logos on the website
8. Quality or "look and feel" is the summation of characteristics such as the overall pleasant aspects of the website, and the absence of spelling and grammatical errors
9. Brand name says how well the brand behind the website is known.

**Table 2:** Different factors of trust according to past studies

	Reference References	Third Party Seals	Risk	Reliability and Availability	Privacy	User's Knowledge	Security	Disposition of Trust	Quality	Reputation	Brand Name Usability
(Atoyan <i>et al.</i> , 2006)											✓
(Madsen and Gregor, 2000)			✓								
(Hsu, 2008) (Hsu, 2008)		✓									
(Hoffman <i>et al.</i> , 2006)	✓			✓	✓	✓	✓	✓	✓		
(Kini and Choobineh, 2000)			✓	✓	✓	✓			✓		✓
(McKnight and Chervany, 2002)		✓	✓			✓	✓	✓		✓	✓
(Jones and Leonard, 2008)					✓			✓			✓
(Camp, 2003)	✓							✓			
(Mayer <i>et al.</i> , 1995)			✓	✓		✓	✓				
(Yousafzai <i>et al.</i> , 2005)		✓					✓			✓	
Rate (%)	20	30	40	30	30	40	40	40	20	20	40



**Fig. 1:** Factors of trust

Some literature focuses on the important factors of trust. In Figure 1, the set of factors is presented that can affect trust. This pie chart was prepared according to the results of the Table 1. All of the factors have effects on decreasing or increasing the level of trust in Internet banking. As shown in Figure 1, the factors of trust have different effects on the level of trust., Risk, reliability, privacy, quality, disposition of trust, reputation, user's knowledge, brand name, security, usability and the third party seals affect the level of trust by 8%, 10%, 8%, 11%, 11%, 5%, 8%, 5%, 10%, 11% and 13%, respectively. Many studies in the literature have used all or some of these factors, and many studies used hypothetical frameworks and models in their investigations.

Overall, we categorised all the trust factors into two groups. One group is related to the customer such as the disposition towards trust and user's knowledge. The other group is related to the website such as privacy, security, quality, risk, reliability, brand name, usability, reputation and third party. Each factor has an effect on trust.

***Related Work on Factors Affecting Internet Banking Adoption:***

Some studies have demonstrated that a significant relationship exists between trust and online banking adoption and the adoption of other electronic commerce services. We can claim that trust happens when the user has confidence in the exchange of integrity and reliability with her/his partner. Customer satisfaction and loyalty towards the brand are the result of the process of value creation that leads to the customer's intention. Value creation requires new strategies for the suppliers to expand their relationship with the customer. According to the study in (Pikkarainen *et al.*, 2004), by changing their strategies from transactional to relational, firms can meet the requirements of their customers. This strategy also can modify the direction of the firms from looking at their customers from the general perspective to a more personal perspective in the future. According to the literature, meeting the customers' needs and expectations is a basic way to satisfy the customers.

One research conducted an empirical survey on website loyalty and found that an individual's loyalty to a website is closely linked to the level of trust (Rexha *et al.*, 2003). Thus, the development of trust not only affects the customers' intention to buy, but it also directly affects the effective purchasing behaviour, in terms of preference, cost and frequency of visits. For instance, recent research indicated that trust has a striking influence on users' willingness to engage in online exchanges of money and sensitive personal information (Hoffman *et al.*, 2006). The study also investigated the influence of perceived trust on CRM performance as demonstrated in behaviour-based intentions such as loyalty, word of mouth recommendations and repurchases.

Trust in online banking and the infrastructure of Internet banking can cause a reduction in users' transaction-specific uncertainty (Al-Hajri, 2008). When individuals trust others, they accept that others will behave as expected and it can lead to a reduction in the complexity of the interactions. Some studies on online banking such as [2, (Pikkarainen *et al.*, 2004), (Sun *et al.*, 2012) have shown that trust is a determining factor in the making of online banking decisions. If an individual is to accept uncertainty, then trust is a necessary component (Yiu *et al.*, 2007). Otherwise, the consumer is likely to be antipathetic to Internet banking services (Chen and Barnes, 2007), (Pikkarainen *et al.*, 2004).

The research in (Suh and Han, 2003b) states that the automated service quality can have an effect on banks' financial performance and customer retention. They found that the quality of the automated services provided by the bank is a significant issue as it can be beneficial by enhancing the bank performance. The most important goal for banks is creating and maintaining better relationships with customers and the bank management tries to reach this goal. Also, good bank performance can be the result of better customer relationships due to the fact that this issue ensures that the customer will return to doing financial activities. Therefore, researchers have focused on the customers' intentions in order to identify the linkages in the relationship between the firms' strategies and customer adoption, and have found that customer retention is a basic factor for CRM performance (Wang *et al.*, 2003).

The customer's tendencies towards e-commerce and the level of usage of e-commerce technology is the consequence of their trust in the electronic system (Chen and Barnes, 2007). Researchers have also indicated that lack of experience may lead to concerns about using the Internet or may lead to avoidance of using the Internet and hence to a lack of trust. Organisations conducting business online must boost trust rapidly in order to succeed (Suh and Han, 2003b).

The good relationship between the bank and their customers can lead to success and strength in the bank-customer relationship. Previous studies have proven the positive relationship as an essential factor in forming the successful customer relationship with the technological environment in comparison with the face-to-face environment. The findings of the research indicate the importance of the quality of the relationship for constructing a successful relationship between the customer and the technology in an online environment (Wang *et al.*, 2003).

The concept of trust is more essential in online banking than in offline banking because customers are concerned about sharing essential files and information through the Internet [8, 9]. The role of trust in the expansion and keeping of effective connections is likely to be of particular importance in financial activities due to the complicated activities involved in parts of the transactions. The level of customers' trust in Internet banking is related to the perceived risk because the positive effects of the trust are the result of low level of risks.

The appearance of new innovations in financial systems has created an extremely aggressive market environment, which has had a crucial effect on customers' attitudes. Online banking suppliers should generally try to have a better understanding of their customers and their attitudes toward technology innovation. If they succeed, banks will have the ability to impact and predict clients' attitudes, which will lead to the achievement of competitive advantage in the future. The emergence of new environments is the result of the connection between the adoption and marketing of digital distribution and modification programs by the financial institutions.

Trust has been identified as one of the important barriers that can prevent customers from adopting online transactions (Gefen and Straub, 2004). Also, trust has a positive impact on users' loyalty to the technology, which may show the tendency to use the technology more than once (Kim and Prabhakar, 2004).

Furthermore, it has been realised that in the Mobile Instant Message (MIM) services, trust directly heightens users' loyalty (Kim and Prabhakar, 2004). In online purchase technology, trust has an important effect on satisfaction and loyalty in the e-environment (Hernández-Ortega, 2011). Trust is influenced by factors including fulfilment, reliability, security and privacy.

It has been found that trust is a connection between purchase intents and loyalty in the B2C e-environment (Sanayei and Noroozi, 2009). Some researchers have identified factors that can have an effect on Internet banking adoption (Ahmad *et al.*, 2011). They demonstrate the need to add additional factors such as belief and trust to the original technology acceptance model (TAM) when considering the features of the Internet banking environment. One important factor in online activities that plays a key role is perceived usefulness (Kim and Prabhakar, 2000). This factor is essential for encouraging users of online banking. Researchers also recommend that some models of customer acceptance of technology must change to place an emphasis on the perceived usefulness as an effective factor of the technology (Kini and Choobineh, 2000), (Kim and Prabhakar, 2000).

The technology acceptance model is a theoretical model that shows the concerns of customers about significant factors in Internet banking, namely, security and privacy (Wang *et al.*, 2003). Some researchers have developed conceptual models which posit that the major causal factors of adoption behaviour can be divided into two aspects, namely, initial trust in the electronic channel as a banking linkage, and trust in the bank. In some models, social network theory and trust theory are the basic concepts (Aslam *et al.*, 2011).

Some researchers have attempted to improve existing models by linking trust and attraction to customer loyalty. There are two parts of the model proposed in (Pikkarainen *et al.*, 2004); firstly, it evaluates the important impacts of trust, and secondly, it examines the impact of shared values, communication and opportunistic behaviour of trust and communication on attraction.

According to the IBM model in (Lichtenstein and Williamson, 2006), perceived usefulness and perceived ease of use have an impact on the intention to transact positively, but Internet banking security needs customers' trust before individuals start identifying sensitive information and transferring that information to their bank through the Internet. Thus, trust acts as a universal factor for Internet banking. Therefore, this model was generated to show the role of trust in the adoption of Internet banking.

When the users of a website carry out electronic activities, features such as the quality of the website, security, privacy, reliability and usability are among the main factors that can affect their level of trust. This is because one aspect in increasing the level of Internet banking adoption is related to the properties of the website. On the other hand, factors related to the users play an important role in increasing the level of Internet banking adoption. For example, the properties of users such as the disposition to trust and users' knowledge are among the main factors that can affect trust in Internet banking activities. In other words, these factors relate to the customers who are carrying out the Internet banking activities. Trust plays an important role in expanding and keeping good relationships in financial activities due to the fact that some of the activities have high levels of complexity and there exists an online relationship between the bank expert and the user [2, (Pikkarainen *et al.*, 2004). Transactions can be usually completed by these technologies and it is not necessary that the parties meet each other and directly face each other. The parties will be concerned that their personal information and details and money will be moved to a third party without their awareness (Kim *et al.*, 2009). The different approaches to Internet banking adoption have been widely debated in the literature. A summary of the literature about trust and adoption of Internet banking is presented in Table 3.

#### ***Framework for the Literature Review:***

A framework was developed as a guideline for the review of the literature. The framework, shown in Figure 2, was used to classify previous research, to analyse the research findings of classified studies, and to propose guidelines for future research.

The resulting framework is multi-faceted since it includes both customer factors and website factors. The left part of the framework that relates to the website factors describes the factors of the website which affect trust including privacy, security, quality, risk, reliability, brand name, usability, reputation and third party seals. The right part of the framework includes the customer factors that affect trust, namely, disposition of trust and user's knowledge. The central part of the framework is related to the impact of trust on Internet banking adoption.

The framework can be used as a meta-model to classify the existing literature, and as a research model to examine the different factors that influence trust. The framework is useful for these purposes because: (1) it is based on guiding studies, is conceptually sound, and draws from previous research; (2) it helps to bring clarity to the multiple topics and to the vague, conflicting terminology present in professional and academic Internet banking adoption literature; and (3) it shows clearly what factors impact on trust and Internet banking adoption, another issue in need of clarity.

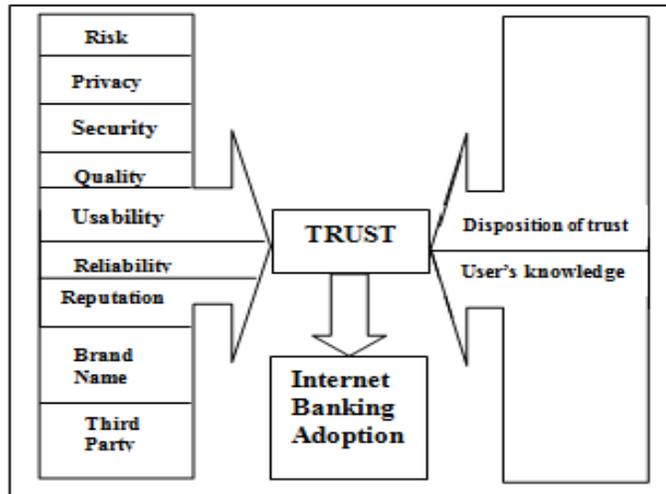


Fig. 2: Framework for impact of trust on Internet banking adoption

**Conclusion:**

This paper reviewed an extensive amount of existing Internet banking adoption studies, and proposed a conceptual framework of customer’s factors and website factors which affect trust. In addition, the impact of trust on Internet banking adoption was outlined.

It can be concluded that the literature provides a number of insights regarding the impact of trust on all transactions in the e-environment. This review has paid particular attention to the works related to trust in Internet banking. It was observed from the literature review that there is an important positive relationship between trust and Internet banking adoption. It was found that trust has a strong influence on Internet banking adoption.

According to the literature, a set of factors can have an effect on trust. All of the important factors have an effect on decreasing or increasing the level of trust in Internet banking adoption. In this paper, the factors of trust were identified based on the previous works with a particular focus on trust and Internet banking adoption. The findings summarised in this paper will be useful not only for the people involved in the implementation, design and management of infrastructure for online services, but also for practitioners and researchers engaged in the study of trust. Knowing the different determinants of trust in the online environment would substantially help professionals in designing websites for online transactions that would be highly trusted. Understanding some of the determinants of trust in online economic exchanges could also be of interest to researchers investigating trust regard to e-government and e-health. For example, website features or characteristics that are important for the formation of trusted online transaction services provided by government organizations could be explored.

Table 3: Summary of international studies about Trust and Internet Banking Adoption

Reference	Objective	Factors	Findings
(Al Nahian Riyadh <i>et al.</i> , 2009)	To present customers’ perceptions about e-banking practices	<ul style="list-style-type: none"> <li>• E-banking privacy</li> <li>• E-banking infrastructure</li> <li>• E-banking information</li> <li>• Government policies</li> <li>• Internet quality</li> </ul>	Due to the lack of trust in technology and low computer literacy rates, customers hesitate to adopt new technology. In order to promote IT culture in Pakistan, government has to increase the Internet penetration rate. The media plays a significant role in promoting the benefits of e-banking so that more users become familiar with e-banking services.
(Lee <i>et al.</i> , 2007)	To identify the barriers in the adoption of Internet banking in areas of Pakistan	<ul style="list-style-type: none"> <li>• Psychological barriers</li> <li>• Technical barriers</li> </ul>	The findings show that customers perceive more value and satisfaction in the conventional banking system compared to Internet banking; the customer-banker communication gap seems to be the most significant factor behind it.

(Gilaninia <i>et al.</i> , 2011)	To understand the specific factors that affect the consumers' decisions in the Australian context	<ul style="list-style-type: none"> <li>• Attention</li> <li>• Accessibility</li> <li>• Convenience</li> <li>• Self-efficacy</li> <li>• Usability</li> <li>• Risks &amp; costs</li> <li>• Relative advantage</li> <li>• Knowledge support</li> </ul>	The key finding is that there is a greater level of Internet banking risk acceptance by Australians than what was previously recognized by Internet banking adoption studies. Also, there is a need for extensive and deep levels of consumer support from banks, especially in terms of the immediate availability of support-oriented knowledge provided by knowledgeable bank personnel using interactive channels.
Reference	Objective	Factors	Findings
(Sivanand <i>et al.</i> , 2010)	To investigate the factors that affect SMEs' adoption of e-banking in Bangladesh	<ul style="list-style-type: none"> <li>• Organizational capabilities</li> <li>• Perceived benefits</li> <li>• Perceived credibility</li> <li>• Perceived regulatory support</li> </ul>	This study develops a conceptual framework of e-banking adoption by SMEs in Bangladesh by integrating all the pertinent parameters under three umbrellas, namely, internal factors, external factors and support institutions. It is expected that the combined model would better explain the e-banking adoption behaviour of SMEs in Bangladesh.
(Maria, 2011)	To identify the factors influencing the adoption of mobile banking service.	<ul style="list-style-type: none"> <li>• Perceived risk</li> <li>• Trust</li> </ul>	The study found the strong inhibiting effect of perceived risk on trust. This result encouraged the decomposition of the perceived risk variable into its theorised dimensions. The financial-performance risk dimension proved to be the most salient concern for this sample and its context. Trust also had stronger influence on the adoption behavior of mobile banking than perceived usefulness, which was used as an important variable in the traditional TAM variables.
(Datta, 2010)	To examine the factors that influence the adoption of the Internet banking & relationship, between personal features and adoption of the Internet banking.	<ul style="list-style-type: none"> <li>• Usage</li> <li>• Availability</li> <li>• Speed, security</li> </ul>	The experimental results demonstrated that customer adoption of Internet banking services is dependent on some individual characteristics followed by jobs related to the Internet, education level, and their age. It was also found that the older people with low levels of education were more resistant to these services than others.

(Nasri, 2011)	To determine the perceived barriers to account holders, which affect the use of mobile Internet banking services in Malaysia	<ul style="list-style-type: none"> <li>• Ease of access</li> <li>• Security</li> <li>• Cost</li> </ul>	A key finding was that mobile banking is critical for customer retention in the banking industry. Also, there is a need for developing a cost-effective, technically supportive and reliable mobile Internet banking system by the banks. Further, the findings also indicate that the banks make efforts in diffusing the mobile Internet banking technology by developing the faith in usefulness, ease of use, credibility, reliability, access, and speed of service among the customers.
Reference	Objective	Factors	Findings
(Nasri, 2011)	To determine the perceived barriers to account holders, which affect the use of mobile Internet banking services in Malaysia	<ul style="list-style-type: none"> <li>• Ease of access</li> <li>• Security</li> <li>• Cost</li> </ul>	A key finding was that mobile banking is critical for customer retention in the banking industry. Also, there is a need for developing a cost-effective, technically supportive and reliable mobile Internet banking system by the banks. Further, the findings also indicate that the banks make efforts in diffusing the mobile Internet banking technology by developing the faith in usefulness, ease of use, credibility, reliability, access, and speed of service among the customers.
(SALARI and SALAJEG HEH, 2011)	To evolution of the appropriate strategies for development of online banking services in Romania	<ul style="list-style-type: none"> <li>• Trust</li> </ul>	In order to survive, banks will need to move away from traditional bases of retail bank competition (fees, interest, customer loyalty), to a new Internet-based form of competition based on cost reduction, customer retention, responsiveness, credibility, security, ease of use, and wider scope of products and services.

(Safeena <i>et al.</i> , 2011)	To investigate the factors affecting the acceptance of e-banking services for customers also indicating the level of concern regarding security and privacy issues in India	<ul style="list-style-type: none"> <li>• Security</li> <li>• Privacy</li> <li>• Trust</li> <li>• Innovativeness</li> <li>• Familiarity</li> <li>• Awareness</li> </ul>	The finding shows that in spite of their security and privacy concerns, adult customers are willing to adopt online banking if banks provide the necessary guidance. Also, bank managers should segment the market on the basis of age groups and provide them with the necessary guidance regarding the use of online banking.
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Reference	Objective	Factors	Findings
(Jaruwachirathanakul and Fink, 2005)	To determine the factors that influence the adoption of Internet banking services in Tunisia	<ul style="list-style-type: none"> <li>• Demographic characteristics</li> <li>• Convenience</li> <li>• Prior Internet knowledge</li> <li>• Security perception</li> <li>• Perceived risk</li> <li>• Information on online banking</li> </ul>	The results of the model showed clearly that use of Internet banking in Tunisia is influenced most strongly by convenience, risk, security and prior Internet knowledge. Only information about online banking did not affect the intention to use Internet banking services in Tunisia. The results also propose that demographic factors impact significantly on Internet banking behaviour, specifically, occupation and instruction.
(Flavián <i>et al.</i> , 2006)	To analyse the influencing factors regarding the acceptance of Internet banking at Mellat Bank in Isfahan City	<ul style="list-style-type: none"> <li>• Perceived use</li> <li>• Usefulness</li> <li>• Trust</li> <li>• Willingness to use</li> <li>• Perceived ease of use</li> <li>• Attitude</li> </ul>	There are factors that affect usage, like overall trust in the bank. As the result showed, perceived usefulness had an effect on both attitude and willingness to use. Customers' familiarity with the advantages and the methods of using Internet banking could help to improve their perception of Internet banking and produce positive attitudes towards it and so could result in customers' willingness to use it.
(Lee <i>et al.</i> , 2007)	To determine the factors influencing the consumer's adoption of Internet banking	<ul style="list-style-type: none"> <li>• Consumer acceptance</li> <li>• Perceived usefulness</li> <li>• Perceived ease of use</li> <li>• Perceived risks</li> </ul>	This study determined the factors influencing the consumers' adoption of Internet banking in India and hence investigated the influence of perceived usefulness, perceived ease of use and perceived risk on use of Internet banking.
(Jaruwachirathanakul and Fink, 2005)	To identify the factors that encourage consumers to adopt Internet banking in Thailand	<ul style="list-style-type: none"> <li>• Perceived usefulness</li> <li>• Compatibility</li> <li>• Trust</li> <li>• Perceived ease of use</li> <li>• Behavioral intention</li> </ul>	The attitudinal aspects that appear to motivate the adoption of online financial in Thailand most are "Features of the website" and "Perceived usefulness", while the most considerable barrier to adopting is a perceived attitudinal control, namely "External environment".

(Yiu <i>et al.</i> , 2007)	To develop a model indicating online-banking acceptance among private customers in Finland	<ul style="list-style-type: none"> <li>• Perceived usefulness</li> <li>• Perceived ease of use</li> <li>• Security</li> <li>• Privacy</li> <li>• Quality</li> <li>• Trust</li> </ul>	The results of this study showed that perceived usefulness and information on Internet banking on the website were the key elements influencing online banking acceptance.
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